

# F. A. S. NEWSLETTER

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----- to provide information and to  
stimulate discussion.

## UNEMPLOYMENT OF SCIENTISTS & ENGINEERS: TWO POINTS OF VIEW

Serious employment problems lie ahead for many of the 600,000 scientists and engineers employed in defense work, or in defense-related industries. No one in Washington seems to have a clear idea what to do about it.

One point of view sees the problem in macroeconomic terms. This point of view looks at national statistics, and proposes to work the levers of fiscal and monetary policy in such a way as to provide the healthy economic context in which the readjustment can work itself out. Thus, in Postwar Economic Reconversion Hearings of late 1969, Professor Warren L. Smith testified that: "there is a tendency to think of the problem as consisting entirely of special situations". He proposed to "accelerate expenditures" on Federal programs that would contribute to the solution of our social and environmental problems. He called a "suitable fiscal and monetary policy" the main aspect of the problem without which "all the special assistance . . . we could imagine" would not be able to solve the problem.

Unfortunately, cuts in defense spending are being coupled with Government cuts in overall demand itself in an effort to combat a surprisingly persistent inflation. The inflation is itself a cost of the war arising from the rapid and deficit-financed military buildup of 1965 and 66. This keeps the Federal Government unable to produce the "suitable fiscal and monetary policy", for which Mr. Smith called.

A contrasting point of view sees the problem in microeconomic terms. The microeconomist is one who has noticed that Boeing employment will drop from 106,000 in 1968 to 29,000 early next year. As Walter Reuther testified in 69, the unemployed worker does not want to know what you are going to do "in general". The microeconomic approach seeks solutions in such things as: job-seeking travel allowances;

computerized employment services; Government economic disaster area employment teams; and, especially, measures designed to encourage research and production in new arenas.

But the realities of the microeconomic approach are no more encouraging than those of the macroeconomic. Take aerospace for example. A study of the "conversion options" of the airframe industry by Marvin Berkowitz and Seymour Melman concluded that the civilian aircraft market opportunities existed — from vertical takeoff aircraft to exotic ground transport and much in between — but warned of the need for "indoctrination" of engineers in the "requirements for succeeding" in the civilian market. Using equipment and facilities owned by the Government, and accustomed to negotiating its sales with a single buyer, aerospace management would find it hard to simultaneously create new markets, new methods, and new men.

Consider electronics, a volume on potential civilian markets for the military-electronics industry, edited by John E. Ullmann, concludes that the prospects for offsetting defense cuts are "poor". It warned that "inter-industry transfers of employees and resources may be necessary".

A companion volume, on conversion of military R&D, edited by Marvin Berkowitz, noted that R&D was a "derived demand", directly contingent on priority of national goals. In short, converting R&D means deciding where research should be done, and motivating a market for its products.\*

A central substantive obstacle to microeconomic conversion is leadtime. Motivated by constituent distress, the Senate is typically the main force behind the "micro" approach. But

\*The above three volumes are part of a just published Prager series entitled "The Defense Economy".

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## REPORT ON THE DEBATE ON THE SUPERSONIC TRANSPORT (SST)

The Federation released the SST policy statement below on Friday, September 18, in anticipation of an increasingly close vote scheduled for Thursday, September 24. The Monday after its release, the vote was postponed. Newspaper reports and rumours suggested that the proponents felt, probably correctly, that they could win by stalling the vote until after the election when popular pressure would cease to be an obstacle to voting for the SST. Alternatively, or in addition, a pre-election vote on SST was thought to provide a hazard to Senator Jackson's reelection campaign whether a negative vote supported Washington state environmentalists or a positive one helped the employment fortunes of Boeing.

The Federation statement was placed in the Congressional Record by Senator Eagleton on September 29, 1970. Previously, while distributing it to Senators and aides, it became apparent that the wavering Senators needed arguments against the SST that applied as directly to their state as did the employment arguments of Boeing and General Electric subcontractors. At the request of the Federation, Dr. William A. Shurcliff prepared two copies of a map of each state, with sonic boom lines crossing the state for a variety of possible SST routes. A covering letter to each Senator from the Federation explained why eventual overland routes had not been precluded, and were entirely possible.

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**UNEMPLOYMENT** *From Page 1*

Senate proposals are usually both long-run and late -- put forward only when the economic pinch is already being felt.

The main proponent of economic conversion in the 1960s has been Senator George McGovern. It is no accident that his proposal for a National Economic Conference Commission was first made in 1964 the year Secretary McNamara was closing down a few hundred military installations in tens of states. With the Vietnam defense buildup in 1965 and 66, interest in conversion waned. The time is again favorable to pass such bills and McGovern's proposal has been reintroduced with major improvements.

The new teeth in the McGovern plan stem from proposals originally made by Walter Reuther that defense contractors be obligated to deposit a part of before-tax profits, from defense or space work, in "conversion reserves" to be held by the National Economic Conference Commission. The profits would be returned when needed to finance contractor efforts to expand nondefense production. In the McGovern plan the percent withheld is 12½%. Although a long-term solution, requiring a buildup of reserves over time, the bill is comprehensive and its National Economic Conference Commission would in time address itself to many immediate matters left out of the bill.

Senator Edward Kennedy also has a relevant bill. It seeks to improve the ability of the National Science Foundation to cope with conversion problems. S. 4241 would authorize NSF to do research on conversion, to support reeducation programs, to award conversion fellowships, and to train management personnel in conversion solutions. It would also permit the Executive Branch to guarantee loans for conversion projects.

Evidently, neither micro- nor macro- economic approach provides simple solutions. The conversion problem does not lend itself to generalities. And it is further complicated by terminological and ideological problems. A Senate legislative aide from California suggests "diversification" rather than "conversion" of industry is the California problem. Some specialists insist that conversion to new products not be confused with reconversion to old products (as in a post Korean War return from building tanks to cars.) Peace groups see conversion as a chance to cut down the military industrial-complex. And their opponents probably do too. (When a secretary of the Senate Armed Services Committee was asked if the Committee had ever had hearings on "conversion of defense industry to peacetime production", she said sarcastically "little early for that isn't it?")

Everytime the need to avert widescale technological unemployment hits, observers consider the problem extraordinary: the end of a Korean or Vietnamese War or something else unusual. It is evident, however, that extraordinary problems are endemic to our social and economic system; continuing methods of dealing with them have to be developed. Even without the extraordinary events -- as the rate of technology and specialization increases -- more and more persons find their education inadequate to continued functioning as a specialist over their lifetime. Our investment in scientific human capital must be kept up to date.

The Federation of American Scientists can find a useful role to play in keeping attention focused -- through good times and bad -- on the problems of priorities, conversion and reeducation. The December newsletter will announce a major Federation program for enhanced activity in this field.

Jeremy J. Stone

**FEDERATION APPEALS FOR DEVELOPMENT PROJECT GRANTS**

Substantial efforts are underway to double, or further multiply, the membership of the FAS in order to support its expanded activities. As part of this effort, this newsletter contains a middle page which, when removed, becomes a brochure. One or both sides of this brochure are easily Xeroxed and distributed to prospective members. We urge each and every recipient of the newsletter to use this brochure to recruit further members. Those who recruit five or more members will be listed in Federation files as "activist" members, and consulted on appropriate future occasions. In place of members, the Federation can use additional contributions to secure members. Each additional \$15 will permit the National office to mail to 100 potential members, some percent of which may agree.

Major gifts are being solicited from members and friends for the following development projects:

1. TACTIC (Technical Advisory Groups to Influence Congress) consisting of a few scientists in each Congressional district acting as liaison between the national office and Congress. Development needs \$20 per Congressional district or \$8,700.

2. University Chapter Network. Intensive efforts to locate chapters at 81 major universities to increase membership, and to broaden the base of Federation support. For locating chapter organizers, initial mass mailings to university scientists and some travel: \$5,000.

3. FISAC (Federation Industry Science Advisory Councils). Organization of FAS chapters in industry with special concerns for industrial problems. Parallel efforts to recruit membership from industry. For mass mailings, locating chapter organizers, and some travel. \$5,000.

4. Membership solicitation to very large lists of 100,000 or even more. Cost of solicitation approximately \$.15 a member. Since membership fees are \$15.00 and since the marginal cost of servicing a new member is small, these mailings pay for themselves if a 1% return is achieved. The Federation will accept (forgivable) loans earmarked for such mailings and repay the loans from the proceeds earned by the mailing. Proposed revolving loan fund: \$7,500.

5. FAS Consulting Fund: A fund designed to support experts who spend a day or two consulting for Congress; especially those in research institutes who would otherwise be precluded from such consultation by tax laws. For fifty man days of experts: \$5,000.

Gifts can be earmarked for all these projects, or for other activities of the Federation. Members should feel free to use this newsletter in soliciting support for Federation projects.

**NOMINATIONS CALLED FOR**

A nominating committee chaired by Arthur Rosenfeld, has been appointed to propose nominees for the new Council and for Vice Chairman and Chairman. Members are encouraged to send suggestions to the Committee via the national office. The December Council meeting will approve a slate; the February newsletter will exhibit the slate and call for nominations by petition. The April newsletter will enclose the ballot and results will be announced in June.

REPORT From Page 1

"Sideline" noise is a community problem

In Congressional testimony, Laurence I. Moss had used Department of Transportation estimates and criteria, and Aviation Week estimates of route frequency, to compute the "sideline" noise that the SST would make while landing and taking off over major SST airports. His estimates revealed that the "sideline" noise of the SST engines was no "airport problem" only. It covered all or most of several major metropolitan areas to a noise exposure level where, according to Department of Transportation criteria, "concerted group action" by the public was possible, and "single dwelling construction should generally be avoided". In such areas, schools, hospitals, churches, and theaters are not considered compatible on land use compatibility charts of the Department of Transportation.

At the request of the Federation, Moss sharpened these estimates for a variety of particular airfields. A letter embodying these observations, with marked attached maps of the metropolitan areas of New York City, Boston, Los Angeles, San Francisco, Seattle, Honolulu, and Anchorage, was provided to each Senator.

The policy statement below, approved by the Executive Committee, followed a mailing of pros and cons to each Council member. No Council member spoke for the SST. With the statement, each Senator received a carefully researched summary of pros and cons drawn from several volumes of Congressional testimony, and other documents.

Policy Statement:

FEDERATION OPPOSES THE SST

The Federation of American Scientists believes continued Government expenditures on the supersonic transport (SST) are a distortion of our true priorities. Even if the prototype program were successful; even if the business community could then finance the production phase; even if the SST were then found to be economically profitable; even if the SST eventually returned the Government investment; and even if the SST did no harm to the environment; the Federation would still find the project a serious misallocation of Government resources. SST proponents estimate that 10% of

our population will be flying internationally in the latter part of the century. Only a well-to-do fraction of these will use the expensive SST to save only a few hours in most cases, and a half-day in others. Meanwhile, the Government is planning to spend almost three times as much on the development of the SST alone as it is planning to spend over the next 12 years for research and development on new modes of mass transit. Tens of millions of persons want to save as much total commuting time every week or two as the SST will save the wealthy on one or a few occasions a year. And mass transit is only one of several important urban problems - some of which we may fail to solve only at peril to domestic tranquility.

Further, the SST prototype program is a poor "business" investment for public monies. Since SST is not a high priority project, the same reasons that the Department of Transportation explained were an "insurmountable hurdle" to attracting private funding should preclude Government financing - the long "dry period" before profits, the "considerable technical risk", and the "amount of profit which would finally accrue". Indeed, while private parties might hope to gain a high return for their high risk, the Government return under this contract, even if all goes well, is conceded by the Department of Transportation to be "only a little over 4%". And, under this contract, if things go badly, private parties may make enormous sums while an unreimbursed Government is taking a loss on its investment.

Neither enhanced employment nor an induced balance of payments advantage is a good reason for Governmental support of this program. The employment loss due to cancellation of the prototype stage will be 20,000 - negligible among millions of unemployed. The production phase might employ 50,000 workers several years hence. But even this benefit is of uncertain value, since the highly skilled workers in question would already be fully employed if we had returned to full employment by that time; and in this case, the extra demand for their skills would be inflationary. SST expenditures could be better spent in providing jobs in socially more productive areas, and in providing them to the disadvantaged hard-core unemployed who seek jobs almost all of the time.

The balance of payments advantages of the SST are speculative. We do not believe that policy questions of this kind should be based on balance of payments estimates of periods a decade hence.

The SST is an environmental hazard. No one can doubt that Government rules on noise and on sonic booms will be bent, if necessary, to keep the finished SST aircraft economically viable. Existing testimony already foreshadows a future decision to permit the SST greater "sideline" noise on the grounds that it is less noisy by other measures than present rules permit. And testimony indicates the possibility that the boom might be permitted over "unpopulated" areas in such a way as to admit a growing number of cross-country flights. The dangers of pollution of the upper atmosphere, even if in fact quite serious, could not be researched and resolved in a sufficiently decisive fashion to prevent an economically plausible SST from being produced and used. Now is the time to protect the environment.

The Federation notes that domestic supporters of the SST have used the threat of successful construction of the British Concorde SST in an effort to get Government support, and it is evident that mirror-image pressures have been brought to bear on the British Government by supporters of the Concorde. Our military-industrial complex is now engaging the British in a contest that is as senseless as the arms race and as prone to the same kind of domestic political manipulation. We need not, as last year's Council of Economic Advisers noted, "compete in white elephants". As in the arms race, our failure to go forward with a boondoggle that excites competition might help the other side to get off the hook, relaxing, in turn, the pressures upon ourselves to make a choice that is wrong in any case.

FAS NEWSLETTER

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FAS, founded in 1946, is a national organization of scientists, engineers and non-scientists concerned with the impact of science on national and world affairs.

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### MAJOR EFFORT UNDERWAY TO ORGANIZE UNIVERSITY CHAPTERS

During October, the Federation embarked on a major effort to organize Chapters on 81 University Campuses. Chapter creation is to be conjoined with the membership drive in the following way. At University B an individual Y will be found from the Federation's membership lists, or in some other way, who is willing to organize a chapter. A letter addressed "Dear University of B Scientist" will then go out to each scientist of that University. It will contain reasons for joining, and "Y"'s name - to be notified if the scientist solicited is interested, not only in membership, but also in local Chapter activities. If your University or College does not have a Chapter and you would like to organize one, write to us. Send us, if possible, a catalogue or list of faculty members.

Chapters of the Federation can play a variety of useful roles. The brochure inserted in this month's newsletter notes that Chapters (25 or more members) have a right to adopt resolutions and make public statements, so long as these are consistent with the general goals and policies of FAS, without prior clearance from the National Council.

Since the Federation's interests encompass all science and society questions, an FAS chapter can usefully consider problems of arms race, environment, science policy, rights of scientists, reconversion, and so on. Such Chapters can arrange symposia or lectures, can petition or advise their Congressmen, and can produce reports on specialized issues to be used in national office lobbying for improved legislation.

Federation Chapters can be the base for local or state political action. And they can help with problems of relevance in higher education, or overproduction of particular Ph.D specialities.

Five or more FAS members can form a Branch. While they cannot make policy statements without prior National Council approval, they can engage in all other activities. Branches can be organized around luncheon groups.

Whether Chapter or Branch, College and University organizations can serve as a nucleus for local protest on

national issues that periodically sweep across the country. The Universities are the main base of our membership. With Chapters at most Universities, we can be a national force.

### FAS OPPOSES DEFENSE FACILITIES AND INDUSTRIAL SECURITY ACT

In letters written to two members of the Judiciary Committee, Senators Hugh Scott (R.,Pa.) and Birch Bayh (D.,Ind.) the Federation opposed the Senate passage of the Defense Facilities and Industrial Security Act, which earlier cleared the House of Representatives as H.R. 14864.

The main purpose of the bill was to set up a personnel screening program intended to safeguard defense facilities against sabotage and other acts of subversion. According to the Defense Department - which did not ask for the bill and which had "no data" on the probable cost of the program - the bill would have required screening between 400,000 and 3,000,000 persons.

Because access to the facilities would not normally have been restricted, the screening was not likely to have been very effective in preventing sabotage. And it was evident in testimony of the Defense Department and the Justice Department that no clear need for the legislation was felt by the Government.

Most evident of all, the bill was unconstitutional. It defined the acts of subversion to be prohibited as acts which "effect any plan, policy, recommendation of any . . . organization" which has as one of its purposes violent overthrow of the Government. It would thus become subversive to effect a policy that was also a policy of some revolutionary organization even if that policy were peaceful; e.g., demonstrating against the Vietnamese War, nationalizing the railroads, and so on.

The Federation argued that national security legislation of this kind should not be passed unless it had clear prospects of being effective, of fulfilling a deeply felt national need, and of being constitutional. H.R. 14864 failed all these tests.

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I am a member but wish to renew my membership and I enclose \$\_\_\_\_\_. (For my information, dues are for calendar years and members may await an individual billing each Fall.)

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